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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Patent No. 6,706,809 *B2*) Serial No. 09/989,708
Inventor(s): Kim TUTIN *et al*) Filed: November 21, 2001
Issue Date: March 16, 2004) Attorney Docket No. 005242.00032

For: RESIN/BINDER SYSTEM FOR PREPARATION OF LOW ODOR FIBERGLASS PRODUCTS

REQUEST FOR CERTIFICATE OF CORRECTION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Certificate
JUN 24 2004
of Correction

Sir:

Pursuant to 35 U.S.C. § 254 and 37 C.F.R. § 1.322, this is a request for the issuance of a Certificate of Correction in the above-identified patent. Two (2) copies of PTO Form 1050 are appended.

The complete Certificate of Correction involves one page.

The mistakes identified in the appended Form occurred through no fault of the Applicants, as clearly disclosed by the records of the application, which matured into this patent. Enclosed for your convenience are the relevant portions of the Amendments filed May 7, 2003 and September 8, 2003.

Issuance of the Certificate of Correction containing the corrections is respectfully requested. Since these changes are necessitated through no fault of the Applicants, no fee is believed to be associated with this request. Nonetheless, should the Patent and Trademark Office determine that a fee is required, please charge our Deposit Account No. 19-0733.

Respectfully submitted,

BANNER & WITCOFF, LTD.

Dated: June 18, 2004

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JUN 24 2004

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO.: 6,706,809 *B2*

DATED: March 16, 2004

INVENTOR(S): Kim TUTIN *et al*

It is certified that errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In Column 15, Claim 1, Line 16:

Please replace "or" with --of--

In Column 15, Claim 1, Line 36:

Please replace "a" with --an infinitely water-soluble,--

In Column 16, Claim 25, Line 56:

Please replace "from" with --form--

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U.S. PAT. NO 6,706,809 *B2*

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@ \$0.50 per page

JUN 24 2004

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after drying, storing the fiberglass base material for a time period of at least one month.

18. (Original) A method according to claim 17, further comprising:

after storing, curing the phenol-formaldehyde binder on the fiberglass base material.

19. (Original) A method according to claim 18, further comprising:

shaping the fiberglass base material to a desired final shape during curing.

20. (Original) A fiberglass product made by the method of claim 18.

21. (Original) A method according to claim 13, further comprising:

after drying, storing the fiberglass base material for a time period of at least two months.

22. (Original) A method according to claim 21, further comprising:

after storing, curing the phenol-formaldehyde binder on the fiberglass base material.

23. (Original) A method according to claim 22, further comprising:

shaping the fiberglass base material to a desired final shape during curing.

24. (Original) A fiberglass product made by the method of claim 22.

25. (Currently Amended) A method comprising:

combining phenol, formaldehyde, water, and a base catalyst selected from the group consisting of oxides of alkali metals, hydroxides of alkali metals, oxides of alkaline earth metals, hydroxides of alkaline earth metals, tertiary amines, and mixtures thereof, to form a mixture, wherein the formaldehyde and phenol are combined in amounts such that a molar ratio of formaldehyde to phenol combined into the mixture is in a range of 1.8 to 4.5;

reacting the mixture to produce a reaction mixture containing at least a phenol-formaldehyde reaction product and free formaldehyde, wherein the reaction mixture contains more than 2.5% free formaldehyde by weight, based on a total weight of the reaction mixture;



☒ PATENT ☐ DESIGN B&W Ref. 005242.00032 Date 9/8/03

☐ HAND CARRY Group/Section Bldg Rm

Serial/Patent No. 09/989,708 Atty/Sec DM S/W FKL dah

Inventor KIM TUN et al Client Georgia Pacific

Title Resin binder system for preparation of low
odor fiberglass products

The following has been received in the U.S. Patent and Trademark Office on the date stamped hereon:

☐ total pp Spec. including: # of Claims 1 ☐ Sequence Listing: ☐ Diskette ☐ Paper

☐ (# of independent claims 1): ☐ Abstract ☒ Amendment ☐ Response: OA dtd 6/6/03

☐ Drawings: ☐ Formal ☐ Informal ☐ Petition for Extension of Time until

☐ # of distinct sheets : Figs. ☐ CPA ☐ RCE ☐ w/Ext of Time: OA dtd

☐ Declaration/Power of Attorney: ☐ Executed ☐ Unexecuted ☐ Request for Approval of Drawing Changes

☐ Assignment w/PTO Cover Sheet ☐ Notice of Appeal & Fee

☐ IDS w/PTO 1449 ☐ References ☐ w/Fee ☐ Brief: ☐ Appeal & Fee ☐ Reply

☐ Preliminary Amendment ☐ Request for Oral Hearing

☐ Priority Claim (Foreign or U.S. Provisional: B&W # SEP 08 2003) ☐ Issue Fee ☐ Advance Patent Copies (# ordered)

Country Appl. # Date ☐ Notice of Allowance dtd

☐ w/Foreign Priority Document(s) ☐ Amendment under 37 CFR 1.312

☐ Application: ☐ CIP ☐ Continuation ☐ Offshore ☐ Request for Certificate of Correction

Parent Ser. No. B&W# ☐ Transmittal ☐ Fee Transmittal w/Auth. to Charge Deposit Acct.

☐ U.S. Provisional pp Spec/Claims, Cover Sheet, ☐ Certificate of Mailing

☐ Response to Missing Parts/Requirements dtd ☐ Check # for \$

☐ Response to Notice to File Corrected Appln. Papers dtd

☐ Request for Expedited Foreign Filing License ☐

☐ Request for Corrected: ☐ Filing Receipt ☐ Assignment ☐

☐ Response to Restriction/Election Requirement ☐

B&W Rev. 5/01

This Listing of Claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A method comprising:

combining phenol, formaldehyde, water, and a base catalyst to form a mixture;

reacting the mixture to produce a reaction mixture containing at least a phenol-formaldehyde reaction product and free formaldehyde, wherein the reaction mixture contains more than 2.5% free formaldehyde by weight, based on a total weight of the reaction mixture;

combining a first formaldehyde scavenger and the reaction mixture, wherein the first formaldehyde scavenger includes a member selected from the group consisting of melamine, urea, ~~diacyandiamide~~, guanidine, and ammonium hydroxide, and wherein a total amount of the first formaldehyde scavenger and the reaction mixture are combined such that a molar ratio of the free formaldehyde in the reaction mixture to the total amount of the first formaldehyde scavenger is in a range of 0.1 to 30;

combining a second formaldehyde scavenger and the reaction mixture, wherein the second formaldehyde scavenger is different from the first formaldehyde scavenger, wherein the second formaldehyde scavenger includes a member selected from the group consisting of melamine, urea, ~~diacyandiamide~~, guanidine, and ammonium hydroxide, wherein a total amount of the second formaldehyde scavenger and the reaction mixture are combined such that a molar ratio of the total amount of the first formaldehyde scavenger to the total amount of the second formaldehyde scavenger is in a range of 0.075 to 13.5, and wherein a molar ratio of the free

formaldehyde in the reaction mixture to the total amount of the second formaldehyde scavenger is in a range of 0.1 to 20; and

reacting the reaction mixture, the first formaldehyde scavenger, and the second formaldehyde scavenger to form an infinitely water-soluble, modified phenol-formaldehyde resole resin, wherein the first and second formaldehyde scavengers react with at least some of the free formaldehyde in the reaction mixture, and wherein the modified phenol-formaldehyde resole resin has a free formaldehyde content of less than 3% by weight, based on a total weight of the modified phenol-formaldehyde resole resin.

2. (Original) A method according to claim 1, wherein the free formaldehyde content of the modified phenol-formaldehyde resole resin is less than 1.2% by weight, based on the total weight of the modified phenol-formaldehyde resole resin.

3. (Original) A method according to claim 1, further comprising:
adding an organic acid or a precursor thereof to the reaction mixture.

4. (Original) A method according to claim 1, wherein at least a portion of the first formaldehyde scavenger and at least a portion of the second formaldehyde scavenger are combined with the reaction mixture at the same time.

5. (Previously Amended) An infinitely water-soluble, modified phenol-formaldehyde resole resin produced by the method of claim 1.

6. (Original) A method according to claim 1, further comprising:
mixing the modified phenol-formaldehyde resole resin and a latent acid catalyst, wherein the latent acid catalyst includes at least one member selected from the group consisting of an ammonium salt of sulfuric acid, an ammonium salt of oxalic acid, an ammonium salt of